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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/678,290	10/03/2003	Roberto J. Rioja		3495

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EXAMINER	
MORILLO, JANELL COMBS	

ART UNIT	PAPER NUMBER
1742	

DATE MAILED: 02/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/678,290	Applicant(s) RIOJA ET AL.	
	Examiner Janelle Combs-Morillo	Art Unit 1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 December 2005*.
2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-26* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a)☐ All b)☐ Some * c)☐ None of:
1.☐ Certified copies of the priority documents have been received.
2.☐ Certified copies of the priority documents have been received in Application No. _____.
3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-15, and 18-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pickens (US 5,455,003A, hereinafter Pickens'003).

Pickens'003 teaches an aluminum alloy comprising (in weight%): 2.8-4.8% Cu, 0.4-1.5% Li, 0.2-1.0% Mg (column 23 lines 6-7), 0.01-1.0% at least one grain refiner selected from: Zr, Ti, Cr, Mn, Hf, V (column 23 lines 16-18), and further containing at least one of: up to 0.8% Ag or up to 1.0% Zn (column 23 lines 21-22), which substantially overlaps the presently claimed alloying ranges. Pickens'003 also teaches an example consisting of: 4.04% Cu, 0.6% Mg, 0.85% Li, 0.38% Ag, 0% Zn, 0.15% Zr, 0.03% Ti, balance aluminum (ex. Q in Table 2 column 6), which is close to the alloying ranges of instant claims. Pickens teaches said alloy exhibits high strength and toughness and is used for structural aerospace components (column 1 lines 38-39).

Overlapping ranges have been held to be a prima facie case of obviousness, see MPEP § 2144.05. It would have been obvious to one of ordinary skill in the art to select any portion of the range, including the claimed range, from the broader range disclosed in the prior art, because the prior art finds that said composition in the entire disclosed range has a suitable utility. Because of the substantial overlap in alloying ranges, it is held that Pickens'003 has created a prima facie case of obviousness of the presently claimed invention.

Concerning the instant limitation of "Cu and Mg are present in the alloy in a total amount below a solubility limit of the alloy", the examiner points out that the solubility limits of Cu and Mg are based on alloy composition. Because Pickens'003 teaches alloying ranges within the presently claimed ranges, it is held that the alloy taught by Pickens'003 inherently teaches an amounts of Cu and Mg below a solubility limit of the alloy, substantially as presently claimed.

Though Pickens does not specify the fatigue crack growth resistance (cl. 25), because the alloy taught by Pickens substantially overlaps the instant alloy composition, then substantially the same properties, such as fatigue crack growth resistance, are expected to occur. Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). "When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. The prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. In re Best, 562 F.2d at 1255, 195 USPQ at 433. See also Titanium Metals Corp. v. Banner, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985), see MPEP 2112.01.

Concerning dependent claims 8 and 9, the amounts of Cu and Mg taught by Pickens'003 in example Q, meet said equations. More specifically, for instant cl. 8, the right side of the equation for Mg=0.6 is 5.65. For instant cl. 9, the right side of the equation is 4.5, and 4.04< 5.65, and 4.04< 4.5.

Concerning dependent claims 21-24, which mention said alloy is in the form of a sheet, plate, extrusion, or forging (respectively), Pickens'003 teaches that said alloy can be worked into a sheet (column 23 line 50), plate (column 23 line 48), extrusion (column 23 line 46), or forging (column 7 line 4).

3. Claims 16, 17, 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pickens'003 in view of Rioja et al (US 5,137,686 A). Pickens'003 is discussed above.

Pickens'003 does not mention 0.1-2% Si or 0.3-1% Si is present in said alloy. However, Rioja teaches that 0.5wt% max. Si (column 13 line 31) is typically present in substantially similar Al-Cu-Li-Mg alloys (that overlap ranges in instant cl. 1, etc.), which broadly overlaps the presently claimed ranges of Si. It would have been obvious to have selected a range of Si of 0.5wt% max. (as an impurity or alloying addition), as taught by Rioja in Pickens' aluminum alloy, because Rioja teaches that said range of Si is suitable limit for substantially similar Al-Cu-Li-Mg alloys that exhibit high strength, corrosion resistance, and fracture toughness (column 13 line 28).

Pickens teaches said alloy is used for structural aerospace components (column 1 lines 38-39). Pickens does not teach forming said alloy into the presently claimed specific aerospace components. However, Rioja, who is drawn to a similar Al-Cu-Li-Mg alloy, teaches that Al-Cu-Li-Mg alloys can be used for wing spars, wing panels, or body panels (column 5 lines 3-6). It would have been obvious to one of ordinary skill in the art to form the alloy taught by Pickens into a wing or body panel, etc. as taught by Rioja, because both Pickens and Rioja are drawn to similar Al-Cu-Li-Mg alloys used in aerospace applications, and Pickens teaches said alloy is suitable for high strength and toughness applications (column 1 lines 38-40).

Response to Arguments

4. In the response filed on December 9, 2005 applicant amended claims 1-15, 18-24, and submitted various arguments traversing the rejections of record. The examiner is uncertain of the status of claims 16, 17, 25, and 26, which are listed as "(withdrawn)", however, this appears to be a typo. Said claims are examined and are mentioned in the rejection above (as if the status identifier were "(previously presented)", etc.).

5. Applicant's argument that the present invention is allowable over the prior art of record because Pickens'003 does not motivate one of skill in the art to subject the cryogenic Al-Cu-Mg-Li alloy taught by Pickens'003 to high cycle stress loadings that would be experienced by various aircraft components (including those discussed in paragraph [0044] of the instant specification) has not been found persuasive. Similarly, applicant argues that the presently claimed "good damage tolerance and fatigue crack growth resistance" of the instant aircraft component made of the instant Al-Cu-Mg-Li alloy would not be expected from the prior art, which has not been found persuasive. It is unclear what inherent characteristics (such as fatigue, UTS, YS, damage tolerance, fatigue crack growth resistance, etc.) are included by the general product limitation of "an aircraft component" (which could include a large variety of aerospace products from fuselage skin, seats, brackets, air ducts, etc), and how these properties relate to the substantially overlapping alloy disclosed by Pickens'003. Applicant has not clearly shown that

the alloy product taught by Pickens'003 has inferior properties as compared to the instant Al-Cu-Mg-Li alloy "aircraft component".

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janelle Combs-Morillo whose telephone number is (571) 272-1240. The examiner can normally be reached on 8:30 am- 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

GEORGE WYSZOMIERSKI
PRIMARY EXAMINER
GROUP 1700

JCM
February 21, 2006